

IMAM Model: Integrating Dick and Carey with Blended Learning for Student Autonomy

Imam Mashudi^{1*}, Ismail Tahir²

^{1,2} Universitas Bina Mandiri Gorontalo, Gorontalo, Indonesia

²School of Foreign Languages, Beihang University, China

*E-mail: kiranxkiranbo@gmail.com

DOI: <https://doi.org/10.90987/apvafw16>

Accepted: 30 May 2026 – Published: 30 June 2026

Abstract

Educational research has established student autonomy as its primary area of investigation. However, few studies have developed instructional models to enhance student autonomy in higher education settings. This study proposes IMAM as an instructional model that unites blended learning principles with Dick and Carey's approach to fostering student independence. This study adopts a research and development (R&D) methodology by distributing questionnaires to Bina Mandiri Gorontalo University's entrepreneurship lecturers. In addition, the data were analysed quantitatively to identify trends and patterns among lecturers in implementing the IMAM model. The results show that student autonomy improves significantly through the four structured phases of the IMAM model: identification of learning needs, classroom management, adaptive and active learning integration, and independent learning development. Through this study, these findings are expected to increase student independence in learning in higher education in Indonesia and inform relevant and sustainable policymaking. The study provides implications for curriculum developers, educators, and policymakers to improve educational guidance and instructions with the need to cultivate lifelong learning competencies among Indonesian students.

Keywords: Dick and Carey Model; Blended learning; IMAM model; Student autonomy; Higher education

Introduction

The importance of student autonomy in higher education allows learners to control their academic journey, make their own choices, and take ownership of educational development (Nichol et al., 2022). This independence is crucial to developing students, especially in implementing Indonesian education policies (Ratminingsih et al., 2018; Zackariasson, 2020). Considering the complexity of the needs and policies of the current world of education (Liu, 2020; Xu, 2023), the government, through the Merdeka Learning - Merdeka University policy (S. Amalia et al., 2023; Santri Fahmi, 2022), encourages students to develop competencies that are in line with their interests and the

* Corresponding author.

demands of the job market. One of the priority programs in MBKM is entrepreneurship (Baharuddin, 2021; Dwikoranto, 2022; Kuncoro et al., 2022), which seeks to equip students with practical skills and a sense of independence, enabling them to contribute to economic development by creating self-employment opportunities. From the perspective of higher education, the government has mandated through Law No. 12 Year 2012 and Permendikbud No. 3 Year 2020 to facilitate students to be able to actualize their potential, equip themselves with various competencies and experiences, and prepare themselves to face the challenges of life in the future (Mariam et al., 2017; Puspitasari & Sastromiharjo, 2021).

However, the reality shows that many students are still narrow-minded, wanting to quickly work as employees rather than create their jobs (Mawar & Nawawi, 2023). Educated unemployment data at the university level in Indonesia in 2022 reached 13.33% of the total unemployment of 1,120,128 people. The high unemployment rate is because university graduates do not have the skills, knowledge, and competence to work (low employability rate) (Cents-Boonstra et al., 2022; Mammadov & Schroeder, 2023). In addition, there is an imbalance between the availability of jobs and the number of university graduates yearly (Mawar & Nawawi, 2023). Thus, efforts to build student independence in implementing educational policies, especially in developing entrepreneurship (R. T. Amalia & von Korflesch, 2021; Erwantiningsih et al., 2021), are significant, so that there is a close relationship between policy, implementation, and sustainability of higher education itself (R. T. Amalia & von Korflesch, 2021). The design of Entrepreneurship learning will create a learning climate that is oriented towards students' independent knowledge, skills, and competencies and supports the MBKM program, especially the Independent Entrepreneurship Program (Dwi Widyastuti et al., 2022; Yazid & Ismawati, 2022), can be a breakthrough in dealing with the problem of educated unemployment in higher education.

The problem-solving approach used in this research refers to the IMAM model, which has four stages of learning design, namely 1) identification of learning needs and identification of student learning problems; 2) Classroom Management (Learning planning, classroom organization, learning implementation, Learning evaluation; 3) Adaptive development of the times/technology and adaptive development of students' skills; and 4) Independent learning,

independent change, and independent sharing. This model is adapted from the Dick and Carey model (Dick, 1996) with a blended learning model (Glazer, 2023; Nasution et al., 2019).

The Dick and Carey model has 10 steps, namely 1) Identifying the general needs and objectives of learning, 2) Carrying out learning analysis, 3) Identifying input behaviours and characteristics of students, 4) Formulating specific goals, 5) Developing assessment instruments, 6) Developing learning strategies, 7) Developing and selecting learning materials, 8) Designing and implementing formative evaluations, 9) Revising learning materials, and 10) Designing and implementing summative evaluation. This is known for its systematic and structured process in instructional design. It is a linear flow of each phase leading to the next, including goals of instruction, instructional analysis, and evaluation of learning. Previous research on the Dick and Carey model has been carried out by several researchers (Akbulut, 2007; Dikmen, 2019; Masruroh, 2023; Nugraha et al., 2024; Qoriah et al., 2017; Ramdan, 2020). They researched the application of the Dick and Carey model in learning Indonesian Language, Literature, PAI, and Islamic Religious Education. The research also highlights the effectiveness and success of the Dick and Carey model in increasing student learning motivation as well as a more engaging and interactive learning experience. Some interesting findings from previous studies show that the Dick and Carey model has been proven to be effective in increasing students' motivation to learn, especially in the subjects of Language, Indonesian Literature, PAI, and Islamic Religious Education.

Dick and Carey's model is beneficial for creating objectives that are explicit and can be quantitatively measured (Dikmen, 2019; Naro et al., 2020; Ramdan, 2020); however, its sequential method may hinder its flexibility in the integrated/blended learning context. Combining face-to-face learning with online learning, blended learning typically necessitates a more flexible and iterative form of design that is attuned to the varying needs and contexts of learners (J. Chen, 2022; Matheos et al., 2012; Wang et al., 2021). This puts into question the degree to which the rigidity of the Dick and Carey model can be adapted to blended learning situations in which students need the flexibility and ownership of their path. The use of Dick and Carey's model in blended learning is effective since it will help align instructional goals with learner outcomes, therefore emerging autonomy which is one of the strengths. When learning objectives are clearly defined, students know their goals, allowing them to take charge of their learning. The model also highlights the importance of formative evaluation (Anis Chaeruman et al., 2018; Chaeruman et al., 2020), which

can provide students with ongoing feedback and help them track their progress and refine their learning approaches. This range of methods may provide scaffolding for students moving from a reliance on a teacher to being independent learners. Conversely, the prescriptive approach of Dick and Carey's model might oppose the ideals of learner autonomy highlighted in blended learning. Blended learning excels at giving students choice and control in their learning trajectories, including the timing, resources, and tools they may use.

In contrast, the sequence of Dick and Carey's approach, which has a rigid sequence of steps, may not further the integration of adaptive technologies and learner-driven activities that are the core of developing learner autonomy (Lailiyatul Iftitah, 2023). For example, students in a blended learning environment might thrive with the autonomy to set their objectives or develop personalized learning plans — an approach that contradicts the top-down design ethos of the model. A further constraint of the model to encourage autonomy in blended learning is its emphasis on social and collaborative learning processes (Moore, 2016). Autonomy does not only apply to learning individually; it is also a condition for learning collectively and critically in groups. Blended learning typically involves collaboration through many tools, such as discussion forums, wikis, and group projects, depending on the flexibility required in the instructional design. The down-to-earth, versatile, practice-oriented Dick and Carey model is more focused on task analysis and less on the dynamic which occurs during group learning iteration. This relative neglect of social aspects might further impede the capacity for collaborative autonomy, one of the prime competencies of the 21st-century learner (Erten, 2022; Tican & Deniz, 2019).

Thus, although the Dick and Carey model does provide a comprehensive guide to designing explicit and task-focused instruction, its elementally sequential and systematic approach presents constraints to realising its effectiveness in blended learning experiences that seek to promote independent learning on behalf of students (Bouilheres et al., 2020; Business & Research, 2021). Such potential may require the model to be employed with its evolved pedagogical components, such as iteration and flexibility to include learner-directed objectives, adaptive technologies, and collaborative activities. In combining these features, the model may provide a closer reflection of autonomy and the dynamic characteristics of blended learning, thereby enabling students to be more independent and engaged learners.

By integrating the principles of blended learning, emphasizing student-driven learning and its flexibility, the IMAM model seeks to bridge this gap, providing an innovative method and creating new pathways for boosting student autonomy in higher education. In addition, a more engaging and interactive learning experience is also one of the main advantages of applying this model (Akbulut, 2007; Dikmen, 2019). Thus, previous research provides a strong foundation for exploring and developing this IMAM model in a broader educational context. Therefore, this study addresses the following research questions:

How can the integration of the Dick and Carey model with blended learning through the IMAM model enhance student autonomy?

How effective is implementing the IMAM model to foster student autonomy in entrepreneurship learning?

Methodology

The method used in this study is the research and development (R&D) method (Gustiani, 2019; Rachma & Muhlas, 2022); the research and development method can be interpreted as a scientific way to research, design, produce, and test the validity of the products that have been produced. This research focuses on the development of the Dick and Carey model (Dick, 1996), which consists of 1) identifying the general needs and objectives of learning, 2) carrying out learning analysis, 3) identifying student input behaviour and characteristics, 4) formulating specific goals, 5) developing assessment instruments, 6) developing learning strategies, 7) developing and selecting learning materials, 8) designing and implementing formative evaluations, 9) revising learning materials, and 10) designing and implementing summative evaluation and Blended Learning Model (Glazer, 2023; Nasution et al., 2019). Furthermore, levels consist of: 1) needs analysis, 2) planning, 3) developing, 4) implementation, and 5) evaluation. The present research and development provide a new design model focusing on four levels: IMAM (*Identifikasi/identification, manajemen/management, adaptif/adaptive, and mandiri/independence*).

The data collection technique is carried out by a questionnaire filled out by lecturers in entrepreneurship courses at the Faculty of Economics and Business, Bina Mandiri Gorontalo University. The questionnaires obtained the lecturers' perceptions, experiences, and challenges in implementing the IMAM model. The specific items provided in the questionnaires help the

researchers to explore their familiarity with the IMAM model, the effectiveness of this model in promoting students' autonomy, and to ensure the changes in learning behaviours among university students at the Faculty of Economics and Business of Bina Mandiri Gorontalo University. Close-ended questions (A. H. Chen et al., 2020; Reja et al., 2003) were used to measure attitudes and perceptions quantitatively among the lecturers, while open-ended questions allowed them to elaborate on their experiences and give feedback. These questionnaires were created using Google Forms and distributed through online platforms, including WhatsApp and Telegram. The researchers sent the questionnaires both in group conversations and private chats with the targeted participants. To ensure and encourage honest responses, the study assured participants of confidentiality and anonymity.

Furthermore, the collected data were analysed quantitatively to identify trends and patterns among lecturers in implementing the IMAM model in entrepreneurship courses. The model's effectiveness was measured through descriptive statistical analysis of quantitative data based on mean scores and standard deviations. The researchers used thematic analysis to identify qualitative responses. This qualitative analysis was also used to explore recurring themes like challenges, benefits, or suggestions for improvements in implementing the IMAM model. Thus, this analysis provides a holistic understanding of the effectiveness of the IMAM model by integrating the Dick and Carey model with blended learning for students' autonomy. In addition, this analysis can help researchers validate preparedness among lecturers and their abilities to apply this IMAM model. The study results are expected to propose an improved pedagogical framework and foster university students' autonomy.

Findings and Discussions

Results of Integration of the Dick and Carey Model with the Blended Learning Model

The IMAM model produced in this study is an integration of 2 models, namely the Dick and Carey model with the blended learning model; the integration can be seen in Table 1. The integration table provides an overview of the grouping of IMAM models integrated with the two models. The results of the study show that the integration of the Dick and Carey model with the blended learning model (IMAM) gives positive results in the context of education. The integration table presented clearly shows how the two models can be well combined. With this integration, it

can be seen that a holistic and integrated educational approach can provide significant benefits in the learning process.

Table 1. Integration of the IMAM Model between the Dick and Carey model and the blended learning model

IMAM Model	Dick and Carey Model	Blended Learning
<i>Identifikasi/Identification</i> (Learning needs and learning problems)	Analysis of learning needs and general objectives	Need analysis
<i>Manajemen/Management / Classroom Management</i> (Class planning, class organization, implementation, controlling/ evaluation)	1. Carry out learning analysis, 2. Identify input behaviour and characteristics of students, 3. Formulate specific objectives, 4. Develop assessment instruments 5. Design and execute formative evaluations 6. Design and develop summative evaluations	1. Planning 2. Developing
<i>Adaptif/Adaptive</i> (Development of the times and technology, the fulfilment of students)	1. Develop learning strategies 2. Develop and select learning materials	3. Implementation
<i>Mandiri/Independent</i> (Learn, Change, and Share)	1. Revise learning materials 2. Develop learning strategies	4. Evaluating

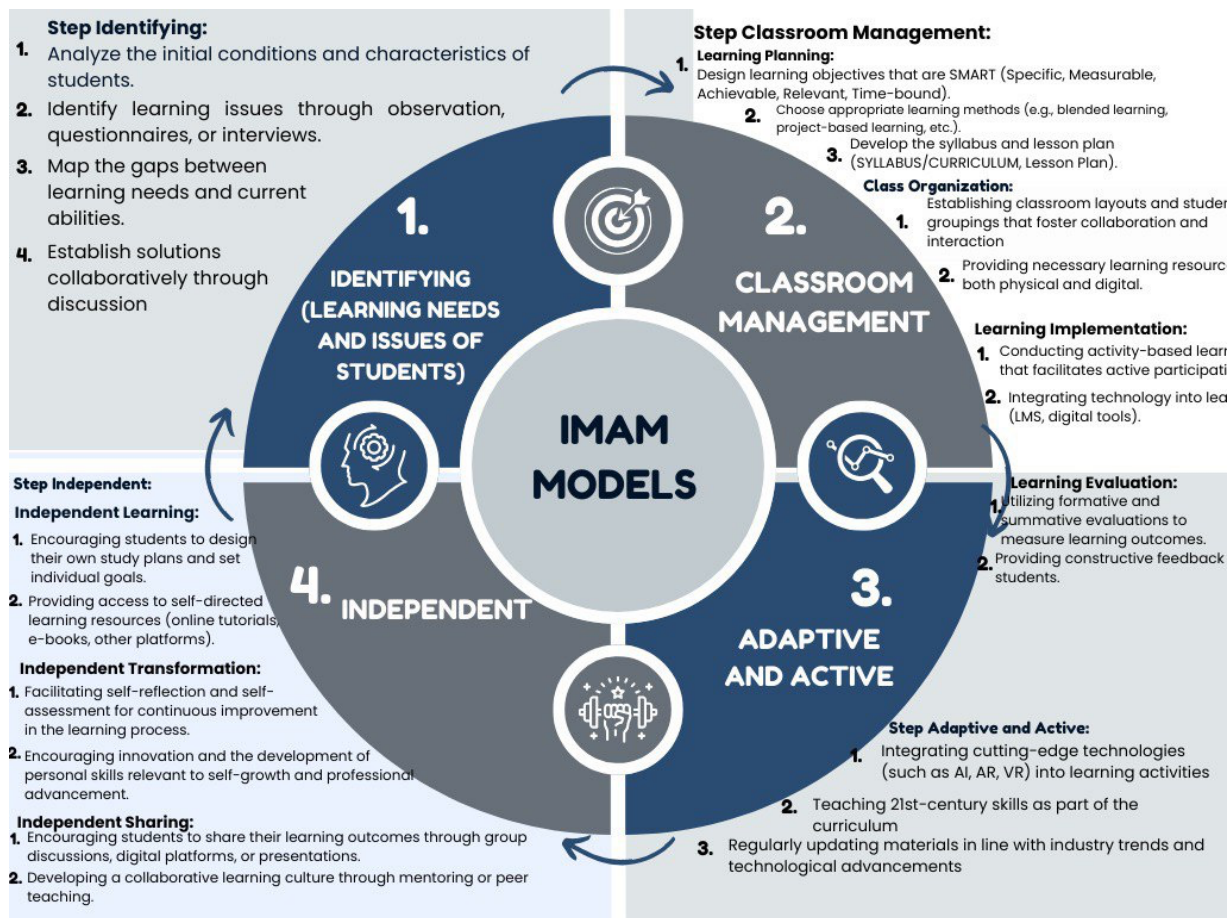


Figure 1. An IMAM Learning Model (IMAM Model)

The IMAM model shown in Figure 1 is an integration of 2 models, namely the Dick and Carey model with the blended learning model. The integration can be seen in the following table:

The learning stages of the IMAM model begin **the first stage, which** identifies the needs and learning problems of students (need assessment) (Hanggara et al., 2019; Prasittichok & Klaykaew, 2022). This stage allows lecturers to obtain initial information about students' learning needs and problems to discuss together to determine solutions in the learning process (Christensen, 2023; Kardoyo et al., 2020). This stage integrates the Dick and Carey model in the stage of Needs analysis and general learning objectives and the blended learning model in the needs analysis stage;

The second stage is Classroom Management. Five activities are carried out at this stage: planning, organizing implementation, and controlling/evaluation. This second stage is crucial in ensuring the successful implementation of the IMAM model in the classroom. The development

of classroom management is based on the theory of Sabornie & Espelage (2022), which states that the stages of classroom management, such as planning, organizing, implementing, and controlling, as well as evaluation, are the essential elements needed in learning (Keshavarz et al., 2022; Mansor et al., 2012). This stage integrates the Dick and Carey model in the stages of implementing learning analysis, identifying input behaviours and characteristics of students, formulating specific goals, developing assessment instruments, designing and implementing formative evaluations, and designing and developing summative evaluations. In contrast, the blended learning model is in the planning and developing stages (Ateh & Ryan, 2023).

The third stage is Adaptive and Active. At this stage, two activities must be carried out (Jin & Peng, 2022; Simanjuntak & Sukresna, 2023), namely learning that must be actively adaptive to the development of the times and technology and the ability of students who are adaptive and active including critical thinking skills, problem-solving, creativity, communication, collaboration, and leadership (6C). This is in line with research conducted, which stated that the blended learning model based on flipped learning (Webb & Doman, 2020a, 2020b) is very effective in improving the 6Cs for HOTS students. In this adaptive and active stage, there are 2 (two) indicators, namely 1) adaptive and active according to the development of the times and technology and 2) adaptive and active in improving students' skills. Furthermore, this stage integrates the Dick and Carey model in the stage of Developing learning strategies and developing and selecting learning materials, while the blended learning model is in the implementation stage.

The fourth stage is Independence. This stage is the expected output of the IMAM Model process stages. Independent Learning, Independent Change, and Independent Sharing are the Outputs and Outcomes achieved from the learning process (Hafidzah et al., 2021; Khasawneh, 2021). This stage is the final stage, closing all stages, starting from identification, classroom management, adaptive, and active. The concept of independence is not only a national concept but also a universal concept that students must possess individually and collectively in facing global challenges. Independence is divided into independent learning, change, and sharing (A.Saleh & N. Fayyad, 2020; Tóth-Pajor et al., 2023; Winarno & Nadia, 2021). Thus, at this independent stage, students are expected to be able to 1) Learn independently both classically and digitally learning content outside the classroom, 2) Students can independently change and adapt to the times and technological developments, and 3) Students can independently share knowledge and experience

both through presentations, discussions, and scientific publications. This stage integrates the Dick and Carey model in the stage of Revision of learning materials, developing learning strategies, while the blended learning model is in the Evaluating stage.

The Effectiveness of the IMAM Model in Entrepreneurship Learning

Assessment of the learning effectiveness of the IMAM model carried out by lecturers in entrepreneurship courses who use 4 (Four) indicators as representative of the steps of the IMAM model, namely 1) Identification (Learning needs and learning problems); 2) Classroom Management (class planning, Classroom organization; implementation; controlling/Evaluation); 3) Adaptive (Development of the times and technology, the fulfilment of students); and 4) Independence (Learn, Change and Share). The following are the results of recapitulating lecturers' assessments on implementing the IMAM model in the Entrepreneurship 4 course.

Table 2 Results of Lecturers' Assessment of the Implementation of the IMAM Model

No	Rated Indicators	Total Score		Score Percentage
		Obtaining	Max	
1	<i>Identifikasi/Identification</i> (Learning needs and learning problems)	17	20	85
2	<i>Manajemen/Management / Classroom Management</i> (Class planning, class organization, implementation, controlling/ evaluation)	19	20	95
3	<i>Adaptif/Adaptive</i> (Development of the times and technology, the fulfilment of students)	12	12	100
4	<i>Mandiri/Independent</i> (Learn, Change, and Share)	21	24	88
Total Scores				89,77

The results of the lecturers' assessment of the implementation of the IMAM Model in Table 2 illustrate that the assessment results were carried out using four indicators: identification of learning needs, classroom management, adaptation, and student independence. Each indicator is scored with a specific maximum value. 1) Identifying learning needs and learning problems obtained a score of 17 out of 20, which shows a percentage of 85%. This reflects high effectiveness in identifying learning needs and challenges in the classroom; 2) Classroom management, which includes planning, organization, implementation, and evaluation, was rated excellent with a score of 19 out of 20, or 95%. This shows near-optimal classroom management in implementing this model; 3) Adaptive and active to the development of the times and technology and skills of students showed a perfect score of 100%, with a score of 12 out of 12. These results show that the

IMAM model is very responsive to technological changes and students' skill needs; and 4) In the independent indicators, namely independent learning, independent change, and independent sharing, a score of 21 out of 24, or 88%, was obtained, which shows that the aspect of independence in learning has been implemented quite well. However, there is still room for improvement.

Table 3. Assessment Questionnaire Score Inter-Performance Criteria

Average Score	Assessed Aspects
90 % - 100 %	Highly Effective
80 - 89 %	Effective
65 % -79 %	Quite Effective
55 % -64 %	Less Effective
< 55 %	Ineffective

Source: Data processing, 2024

The results of the lecturer assessment above show that the IMAM Model's effectiveness is obtained at an average score of 89.77%, which means that the IMAM model developed is the practical aspect. With this assessment, it can be concluded that the IMAM model has proven effective and beneficial in helping students develop their skills (Alismaiel, 2022; Hadiyanto et al., 2021). This approach allows students to learn more actively and participate in the learning process. It is hoped that by improving the quality of teaching using the IMAM model, more and more students will be able to reach their maximum potential in the learning process.

Other research that has been carried out to form student independence in entrepreneurship courses is based on a problem-based learning approach (Blancia & Fetalvero, 2021; Sistermans, 2020) and exposure to entrepreneurs' success stories, which were considered very effective. This shows that the IMAM model is a new learning model that has never been researched before in building student independence, even though there has been research that raises efforts to form student independence in entrepreneurship courses. Through the IMAM model, students can think critically (Abrami et al., 2015; Chukwunemerem, 2023), ask questions, and have active discussions with lecturers and fellow students. Thus, it is hoped that students can develop their creative and analytical potential more optimally. This learning model is also expected to positively impact the quality of graduates ready to compete in the world of work.

Furthermore, other research that is in direct contact with the study of the use of the Dick and Carey model with the blended learning model is still very limited to access, related research

that has been carried out by Mursid et al. (2023) to develop a blended learning model using a computer application using the Dick and Carey model (Mursid et al., 2023). The rest only use the wrong learning model.

Conclusions

This research introduces the IMAM model as an innovative instructional design through the integration of the Dick and Carey model with the flexibility of blended learning to boost student autonomy in higher education. The study evidence shows that the IMAM model is successfully implemented in entrepreneurship learning, and its application can potentially be applied across other disciplines. The advantage of this IMAM model is that it facilitates students to be independent in learning, changing, and sharing knowledge. The IMAM model can be an alternative learning model that is effective, interesting, and innovative, especially in entrepreneurship learning in higher education. In addition, this model is straightforward to use by teaching staff because the learning process begins with identifying learning needs and difficulties, which then considers the mastery of technology, the development of science, and future skills. At the end of learning, the IMAM model encourages students to become independent learners in learning, changing, and sharing knowledge.

As its implication, self-directed learning enhancement in higher education can be achieved by adopting the IMAM model, which policymakers and curriculum developers should incorporate into their practice. Furthermore, future researchers are expected to evaluate this method's permanent effect and universal usage potential across different instructional settings.

Co-Author Contribution

The authors affirmed that there is no conflict of interest in this article. Author 1 was responsible for conducting the fieldwork, developing the research methodology, and writing the entire article. Author 2 contributed by writing the literature review and proofreading the article. These two authors contributed to the research analysis and provided the research results.

References

- A.Saleh, S., & N. Fayyad, M. (2020). The Cognitive Style (Independence - Accreditation) Among University Students. *Al-Anbar University Journal For Humanities*, 2020(4). <https://doi.org/10.37653/juah.2020.171259>
- Abrami, P. C., Bernard, R. M., Borokhovski, E., Waddington, D. I., Wade, C. A., & Persson, T. (2015). Strategies for Teaching Students to Think Critically: A Meta-Analysis. *Review of Educational Research*, 85(2). <https://doi.org/10.3102/0034654314551063>
- Akbulut, Y. (2007). Implications of two well-known models for instructional designers in distance education: Dick-carey versus Morrison-ross-kemp. *Turkish Online Journal of Distance Education*, 8(2).
- Alismaiel, O. A. (2022). Develop a New Model to Measure the Blended Learning Environments Through Students' Cognitive Presence and Critical Thinking Skills. *International Journal of Emerging Technologies in Learning*, 17(12). <https://doi.org/10.3991/ijet.v17i12.30141>
- Amalia, R. T., & von Korfflesch, H. F. O. (2021). Entrepreneurship education in Indonesian higher education: mapping literature from the Country's perspective. *Entrepreneurship Education*, 4(3). <https://doi.org/10.1007/s41959-021-00053-9>
- Amalia, S., Mayasari, M., & Santoso, M. P. T. (2023). Fenomena Sosial Kegiatan Merdeka Belajar Kampus Merdeka Pada Mahasiswa. *Jurnal Pendidikan Tambusai*, 7(2).
- Anis Chaeruman, U., Wibawa, B., & Syahrial, Z. (2018). Determining the Appropriate Blend of Blended Learning: A Formative Research in the Context of Spada-Indonesia. *American Journal of Educational Research*, 6(3). <https://doi.org/10.12691/education-6-3-5>
- Ateh, C. M., & Ryan, L. B. (2023). Preparing teacher candidates to be culturally responsive in classroom management. *Social Sciences and Humanities Open*, 7(1). <https://doi.org/10.1016/j.ssaho.2023.100455>
- Baharuddin, M. R. (2021). Adaptasi Kurikulum Merdeka Belajar Kampus Merdeka (Fokus: Model MBKM Program Studi). *Jurnal Studi Guru Dan Pembelajaran*, 4(1). <https://doi.org/10.30605/jsdp.4.1.2021.591>
- Blancia, G. V. V., & Fetalvero, E. G. (2021). Problem-Based Learning Approach : Effect on Achievement in Genetics Among Grade 12 Students. *Turkish Online Journal of Qualitative Inquiry (TOJQI)*, 12(7).
- Bouilheres, F., Le, L. T. V. H., McDonald, S., Nkhoma, C., & Jandug-Montera, L. (2020). Defining student learning experience through blended learning. *Education and Information Technologies*, 25(4). <https://doi.org/10.1007/s10639-020-10100-y>
- Business, G., & Research, M. (2021). Students' Perception on Interactive Learning in Enhancing

- Blended Learning Experiences. *An International Journal*, 13(4s).
- Cents-Boonstra, M., Lichtwarck-Aschoff, A., Lara, M. M., & Denessen, E. (2022). Patterns of motivating teaching behaviour and student engagement: a microanalytic approach. *European Journal of Psychology of Education*, 37(1). <https://doi.org/10.1007/s10212-021-00543-3>
- Chaeruman, U. A., Wibawa, B., & Syahrial, Z. (2020). Development of an instructional system design model as a guideline for lecturers in creating a course using blended learning approach. *International Journal of Interactive Mobile Technologies*, 14(14). <https://doi.org/10.3991/ijim.v14i14.14411>
- Chen, A. H., Bakar, N. F. A., & Lam, C. S. Y. (2020). Comparison of open-ended and close-ended questions to determine signs and symptoms of eye problems among children. *Journal of Optometry*, 13(2). <https://doi.org/10.1016/j.optom.2019.07.002>
- Chen, J. (2022). Effectiveness of blended learning to develop learner autonomy in a Chinese university translation course. *Education and Information Technologies*, 27(9). <https://doi.org/10.1007/s10639-022-11125-1>
- Christensen, D. (2023). Computational Thinking to Learn Environmental Sustainability: A Learning Progression. *Journal of Science Education and Technology*, 32(1). <https://doi.org/10.1007/s10956-022-10004-1>
- Chukwunemerem, O. P. (2023). Lessons from Self-Directed Learning Activities and Helping University Students Think Critically. *Journal of Education and Learning*, 12(2). <https://doi.org/10.5539/jel.v12n2p79>
- Dick, W. (1996). The Dick and Carey model: Will it survive the decade? *Educational Technology Research and Development*, 44(3). <https://doi.org/10.1007/BF02300425>
- Dikmen, C. H. (2019). The Effect of Web-Based Instruction Designed by Dick and Carey Model on Academic Achievement, Attitude and Motivation of Students' in Science Education. *Journal of Learning and Teaching in Digital Age*, 4(1).
- Dwi Widyastuti, R., Febriati, F., & Afif, A. (2022). Formation of Sharia Entrepreneurship Values In Boarding Schools. *Devotion: Journal of Research and Community Service*, 3(13). <https://doi.org/10.36418/dev.v3i13.296>
- Dwikoranto, D. (2022). The Effectiveness of the Entrepreneurship MBKM Lecture Model: Alternatives to Improve Student Creativity Competencies during the Pandemic Covid-19. *Prisma Sains : Jurnal Pengkajian Ilmu Dan Pembelajaran Matematika Dan IPA IKIP Mataram*, 10(2). <https://doi.org/10.33394/j-ps.v10i2.4993>
- Erten, P. (2022). Analyzing vocational high schools within the 21st century learner and teacher skills spectrum. *Egitim ve Bilim*, 47(209). <https://doi.org/10.15390/EB.2022.10702>

- Erwantiningsih, E., Wahyuni, H., & Immadudin, W. (2021). Developing Entrepreneurial Interest and Student Independence through Project-Based Entrepreneurship Learning. *Pedagogia : Jurnal Pendidikan*, 10(2). <https://doi.org/10.21070/pedagogia.v10i2.1255>
- Glazer, F. S. (2023). Blended Learning: Across the Disciplines, Across the Academy. In *Blended Learning: Across the Disciplines, Across the Academy*. <https://doi.org/10.4324/9781003443285>
- Gustiani, S. (2019). Research and Development (R&D) Method as a Model Design in Educational Research and Its Alternatives. *HOLISTICS JOURNAL*, 11(2).
- Hadiyanto, H., Failasofah, F., Armiwati, A., Abrar, M., & Thabran, Y. (2021). Students' practices of 21st century skills between conventional learning and blended learning. *Journal of University Teaching and Learning Practice*, 18(3). <https://doi.org/10.53761/1.18.3.7>
- Hafidzah, N. A., Azis, Z., & Irvan, I. (2021). The Effect of Open Ended Approach on Problem Solving Ability and Learning Independence in Students' Mathematics Lessons. *IJEMS: Indonesian Journal of Education and Mathematical Science*, 2(1). <https://doi.org/10.30596/ijems.v2i1.6176>
- Hanggara, G. S., Setyaputri, N. Y., & Ariyanto, R. D. (2019). Efficiency of Students' Needs Assessment Application Facilitated by Text Communication Media. *Jurnal Kajian Bimbingan Dan Konseling*, 4(4). <https://doi.org/10.17977/um001v4i42019p150>
- Jin, S., & Peng, L. (2022). Classroom perception in higher education: The impact of spatial factors on student satisfaction in lecture versus active learning classrooms. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.941285>
- Kardoyo, Nurkhin, A., Muhsin, & Pramusinto, H. (2020). Problem-based learning strategy: Its impact on students' critical and creative thinking skills. *European Journal of Educational Research*, 9(3). <https://doi.org/10.12973/EU-JER.9.3.1141>
- Keshavarz, M., Mirmoghtadaie, Z., & Nayyeri, S. (2022). Design and Validation of the Virtual Classroom Management Questionnaire. *International Review of Research in Open and Distributed Learning*, 23(2). <https://doi.org/10.19173/irrodl.v23i2.5774>
- Khasawneh, M. A. S. (2021). The Effectiveness of a Training Program based on Erikson's Theory in Developing Independence Skills among Students with Learning Disabilities in Jordan. *Jurnal Ilmu Sosial Dan Ilmu Politik Malikussaleh (JSPM)*, 2(2). <https://doi.org/10.29103/jspm.v2i2.4969>
- Kuncoro, J., Handayani, A., & Suprihatin, T. (2022). Peningkatan Soft Skill Melalui Kegiatan Merdeka Belajar Kampus Merdeka (MBKM). *Proyeksi*, 17(1).
- Lailiyatul Iftitah, S. (2023). Designing Effective Instructional Media in Early Childhood Education: A Comparative Review of the ADDIE and Dick and Carey Instructional Design

- Models. *Advances in Educational Technology*, 2(1).
- Liu, H. (2020). Globalization and World Citizenship Education. *International Journal of Learning*, 6(2). <https://doi.org/10.18178/IJLT.6.2.94-97>
- Mammadov, S., & Schroeder, K. (2023). A meta-analytic review of the relationships between autonomy support and positive learning outcomes. In *Contemporary Educational Psychology* (Vol. 75). <https://doi.org/10.1016/j.cedpsych.2023.102235>
- Mansor, A. N., Eng, W. K., Rasul, M. S., Mohd Hamzah, M. I., & Hamid, A. H. A. (2012). Effective classroom management. *International Education Studies*, 5(5). <https://doi.org/10.5539/ies.v5n5p35>
- Mariam, I., Wartiningsih, E., & Latianingsih, N. (2017). Tinjauan Kritis Kontribusi Penelitian. *Epigram*, 14(2).
- Masruroh, D. (2023). Model Pembelajaran Dick and Carey Dan Implementasinya Dalam Pelajaran PAI. *Global Education Journal*, 1(2). <https://doi.org/10.59525/gej.v1i2.269>
- Matheos, K., Daniel, B. K., & McCalla, G. I. (2012). Dimensions for blended learning technology: Learners' perspectives. *Journal of Learning Design*, 1(1). <https://doi.org/10.5204/jld.v1i1.9>
- Mawar, B., & Nawawi, Z. M. (2023). Analisis Pengaruh Mata Kuliah Kewirausahaan dan Motivasi Kewirausahaan Terhadap Minat Untuk Menjadi Pengusaha Muda Islami (Young Entrepreneur). *Cakrawala Repositori IMWI*, 6(1). <https://doi.org/10.52851/cakrawala.v6i1.201>
- Moore, R. L. (2016). Developing Distance Education Content Using the TAPPA Process. *TechTrends*, 60(5). <https://doi.org/10.1007/s11528-016-0094-8>
- Mursid, R., Muslim, & Farihah. (2023). Collaboration-Based Development Model E-Learning on Course Learning Achievements Working Skills. *International Journal of Instruction*, 16(2). <https://doi.org/10.29333/iji.2023.16218a>
- Naro, W., Abubakar, A., Yani, A., Kurniati, Amiruddin, M. M., & Syatar, A. (2020). Developing learning method on post-graduated program: A blended learning based on web-blog and print technology design. *Cypriot Journal of Educational Sciences*, 15(5). <https://doi.org/10.18844/CJES.V15I5.5178>
- Nasution, N., Jalinus, N., & Syahril. (2019). Buku Model Blended Learning. In *Pekanbaru: Unilak Press*.
- Nichol, L., Wallace, S. J., Pitt, R., Rodriguez, A. D., & Hill, A. J. (2022). Communication partner perspectives of aphasia self-management and the role of technology: an in-depth qualitative exploration. *Disability and Rehabilitation*, 44(23). <https://doi.org/10.1080/09638288.2021.1988153>

- Nugraha, M. S., Qodriani, S. H., & Dedih, U. (2024). Implementation Of The Dick And Carey Model In Improving Islamic Religious Education Learning At Assalam Middle School Bandung (Qur'anic Inspiration Material In Preserving Nature). *AL-WIJDÂN Journal of Islamic Education Studies*, 9(1). <https://doi.org/10.58788/alwijdn.v9i1.3550>
- Prasittichok, P., & Klaykaew, K. K. (2022). Meta-skills development needs assessment among undergraduate students. *Heliyon*, 8(1). <https://doi.org/10.1016/j.heliyon.2022.e08787>
- Puspitasari, N. A., & Sastromiharjo, A. (2021). Permendikbud Implementation No. 3 Year 2020 in the Preparation of Indonesian Course Lesson Plan. *Hortatori : Jurnal Pendidikan Bahasa Dan Sastra Indonesia*, 5(1). <https://doi.org/10.30998/jh.v5i1.622>
- Qoriah, Y., Sumarno, & Umamah, N. (2017). The Development Prehistoric of Jember Tourism Module Using Dick and Carey Model. *Jurnal Historica*, 1(1).
- Rachma, N., & Muhlas, I. (2022). Comparison Of Waterfall And Prototyping Models In Research And Development (R&D) Methods For Android-Based Learning Application Design. *Jurnal Inovatif : Inovasi Teknologi Informasi Dan Informatika*, 5(1). <https://doi.org/10.32832/inovatif.v5i1.7927>
- Ramdan, M. (2020). Development Of Reading Teaching Materials Indonesian For Class VII SMP With Dick And Carey Models. *IJEMS:Indonesian Journal of Education and Mathematical Science*, 1(3). <https://doi.org/10.30596/ijems.v1i3.5461>
- Ratminingsih, N. M., Marhaeni, A. A. I. N., & Vigayanti, L. P. D. (2018). Self-Assessment: The effect on students' independence and writing competence. *International Journal of Instruction*, 11(3). <https://doi.org/10.12973/iji.2018.11320a>
- Reja, U., Manfreda, K. L., Hlebec, V., & Vehovar, V. (2003). Open-ended vs. Close-ended Questions in Web Questionnaires. *Developments in Applied Statistics*, 19.
- Sabornie, E. J., & Espelage, D. L. (2022). Handbook of classroom management. In *Handbook of Classroom Management*. <https://doi.org/10.4324/9781003275312>
- Santri Fahmi, S. F. S. F. (2022). Merdeka Belajar-Kampus Merdeka. *At-Tadris: Journal of Islamic Education*, 2(2). <https://doi.org/10.56672/attadris.v2i2.70>
- Simanjuntak, M., & Sukresna, I. M. (2023). The Role of Adaptive E-Learning Co-Design as Main Solution to Higher Education's Marketing Performance. *International Journal of Learning, Teaching and Educational Research*, 22(2). <https://doi.org/10.26803/ijlter.22.2.8>
- Sisternans, I. J. (2020). Integrating competency-based education with a case-based or problem-based learning approach in online health sciences. In *Asia Pacific Education Review* (Vol. 21, Issue 4). <https://doi.org/10.1007/s12564-020-09658-6>
- Tican, C., & Deniz, S. (2019). Pre-service teachers' opinions about the use of 21st century learner

- and 21st century teacher skills. *European Journal of Educational Research*, 8(1). <https://doi.org/10.12973/eu-jer.8.1.181>
- Tóth-Pajor, Á., Bedő, Z., & Csapi, V. (2023). Digitalization in entrepreneurship education and its effect on entrepreneurial capacity building. *Cogent Business and Management*, 10(2). <https://doi.org/10.1080/23311975.2023.2210891>
- Wang, N., Chen, J., Tai, M., & Zhang, J. (2021). Blended learning for Chinese university EFL learners: learning environment and learner perceptions. *Computer Assisted Language Learning*, 34(3). <https://doi.org/10.1080/09588221.2019.1607881>
- Webb, M., & Doman, E. (2020a). Impacts of flipped classrooms on learner attitudes towards technology-enhanced language learning. *Computer Assisted Language Learning*, 33(3). <https://doi.org/10.1080/09588221.2018.1557692>
- Webb, M., & Doman, E. (2020b). Impacts of flipped classrooms on learner attitudes towards technology-enhanced language learning. *Computer Assisted Language Learning*, 33(3), 240–274. <https://doi.org/10.1080/09588221.2018.1557692>
- Winarno, A., & Nadia, D. (2021). Double-Track Entrepreneurial Education Model to Improve Independence Among Students of Islamic Boarding School in Malang. *Jurnal Ilmu Pendidikan*, 27(2). <https://doi.org/10.17977/um048v27i2p86-90>
- Xu, Z. (2023). Whiteness as world-class education?: Internationalization as depicted by Western international branch campuses in China. *Higher Education*, 85(4). <https://doi.org/10.1007/s10734-022-00872-2>
- Yazid, H., & Ismawati, I. (2022). Empowerment of Coastal Communities through Socialization Of Entrepreneurship and MSME Development For The Economic Independence Of Communities, Pontang Sub-District, Serang Regency. *MOVE: Journal of Community Service and Engagement*, 1(3). <https://doi.org/10.54408/move.v1i3.37>
- Zackariasson, M. (2020). Encouraging student independence: Perspectives on scaffolding in higher education supervision. *Journal of Applied Research in Higher Education*, 12(3). <https://doi.org/10.1108/JARHE-01-2019-0012>